

BOOK REVIEWS

HYDROGEOLOGICAL PROCESSES IN KARST TERRANES edited by G. Gunay, A. I. Johnson and W. Back, International Association of Hydrological Sciences, Publication No. 207, IAHS Press, Wallingford, 1993. No. of pages: xi + 412. Price: £38·00 (\$60·00). ISBN 0-947571-28-0.

This volume consists of the proceedings of an international symposium and field seminar held in Antalya, Turkey, in 1990. This is the second such volume, papers from the earlier (1985) conference also being published by IAHS as Publication No. 161. As might be expected in such a volume, there is a considerable range in the style, content and quality of papers included. A particular theme is the development of numerical models, ranging from those that are simply descriptive (for instance, of recession curves or flood frequencies) to those that incorporate considerable understanding of aquifer structure and process. Of particular interest here are the studies of Teutsch and Sauter on the development of double porosity models, and their calibration from aquifer and tracer tests (see also Dzikowski *et al.*). There are also a number of reviews, either of regional studies (such as that of Custodio *et al.* dealing with Southern Catalonia) which have the merit of introducing the wider international audience to extensive work not previously published in international journals, or of specific topics (such as that of Plata on tracing techniques). The majority of papers are, however, case studies, which examine diverse problems including dam integrity, hydrogeological interpretation of geochemical data, and aspects of the hydrogeology of specific aquifer systems. Some of these are of considerable interest, but others are of only local importance and/or lack technical

rigour. Given the cost of publication and the increasing volume of international literature, it is a pity that a rather more severe editorial policy is not applied to volumes such as this in order to sort the good from the merely mediocre and frankly bad.

Editors and publishers also have a duty to ensure that the quality of reproduction is adequate. This is not the case in this volume, which was apparently prepared from camera-ready copy. The reproduction of some figures is so poor as to render them completely illegible; this affects 11 of the 39 papers so severely that comprehension of the paper is difficult, and another eight papers have at least one figure of inadequate quality (perhaps purchasers should ask for their money back, on the basis that the book is not of serviceable quality?). In some cases the blame can be laid firmly with the authors, who are responsible for poor selection of stipple, overlay of lettering on stipple, inadequate line thickness and lettering size. Nevertheless, it is the duty of the editors to identify such inadequacies and request remediation. In addition, some of these problems result from excessive reduction. In the paper by Forti *et al.*, for instance, maps and sections are mostly unreadable, yet are reproduced at a width of 8·5 cm, compared with the text width of 13 cm. If this was to save space, then why does the article terminate half-way down a blank page, and why is it then followed by a completely empty page as a leader to the next paper? Such primary consideration of style before legibility is totally misplaced, and I am surprised that IAHS have not produced a better volume.

P. L. SMART
Department of Geography
University of Bristol

SURFICIAL PROCESSES AND LANDSCAPE EVOLUTION: RIFT VALLEYS AND ARID TERRAINS edited by Asher P. Schick, Laser Pages Publishing, Jerusalem, 1992. (Reprinted from the *Israel Journal of Earth Sciences*, 41(2–4), 1992.) Price: \$65. ISBN 965-222-324-7.

This volume commemorates the life and work of Ran Gerson, late of the Hebrew University of Jerusalem. As the title suggests, it collects together a number of papers that cover, between them, a fairly wide spectrum of

geomorphology. Authorship includes not only some of Ran's Israeli colleagues, both physical geographers and geologists, but also a wide range of friends from various places around the world, some of whom had been host to Ran during periods of sabbatical leave.

There is considerable diversity, and this reflects Ran's own broad range of interests. So, 'large' and 'tectonic' are represented by Victor Baker, Valentina Finn and Goro Komatsu's explanation of continental-scale drainage patterns as a product of the crustal uplift associated with mantle plumes, while Don Adamson, Rosanna McEvedy and Martin Williams, and Paul Shaw and

David Thomas, provide us with insights into the impact of structure on the Nile and the Okavango, respectively. 'Small' and 'process' are provided by Marwan Hassan and his investigation of river-bed structure, by Tony Parsons and Athol Abrahams' examination of interrill erosion, and by Avinoam Danin's look at biochemical weathering of limestone. 'Prehistorical'—perhaps Ran's most long-lived love—can be seen in Harrison, McFadden and Weldon's study of pedogenesis on Californian river terraces that have been variably affected by invasive colluvium, Adrian Harvey's re-assessment of alluvial fans, Esra Zilberman's enlightening inference of climate change in the northern Negev during the last glacial, Amos Frumarkin's interpretation of erosion surfaces in Judea, and Dan Bowman and T. Gross' evidence that Lake Lisan's high-stand should now be placed at 150 m below sea level rather than 180 m, as previously. In the same camp comes Cliff Ollier's assessment of divergent ages for soils and landforms in Uganda. 'Historical' is covered by Luna Leopold's interest in Nabatean dams and their impact on local base-level, and Haim Tsoar and Yuval Yekutieli's rediscovery of ancient trackways across the Negev. Ran's comparatively recent interests in 'neotectonics' are commemorated in Benny Begin's semitheoretical analysis of fault-scarp dating and are reflected to some degree in a technical treatment of DTMs by Maxim Shoshany, Moshe Imbar, Benny Begin and John Hall, while 'wind-blown dust' is there in Hendrik Bruins and Dan Yaalon's theory of parallel advance of slopes, and in Offer, Zangvil and Azmon's interesting physico-chemical and mineralogical analysis of modern fall-out.

The papers are a mix of new and old. Like the rift sediments that were so important to Ran, some are a product of re-derivation, even multiple derivation. This is surprisingly useful, if only because distillation, even multiple distillation, is a process that gives strength to the spirit and can warm the soul. And, even though there are often feelings of *deja vu*, one can feel happy that those stones that have been turned are probably well worth turning.

The papers were originally published as part of Volume 41 of the *Israel Journal of Earth Sciences* and have been reprinted and hard-bound by Laser Pages. Ran would have relished the fact that this sequence of events is enshrined in dual and different pagination at the top and bottom of each page—the sort of conflict that often brings fruitful palaeoenvironmental deduction in a different context when found in proxy data.

We should be grateful to Asher Schick for drawing together these papers in one volume. No greater tribute could be paid by one's professional colleagues than that they band together to produce a volume such as this. I suspect that if someone has an interest in the Middle East and especially in Israel or if, like me, there is lasting gratitude to Ran for his help and friendship, it will be important to have a personal copy on the bookshelf. For others, it is individual papers that will be of interest and, in this case, the *Israel Journal of Earth Sciences* will be the point of reference.

IAN REID

Loughborough University of Technology

FLUVIAL SEDIMENTARY GEOLOGY AND CHRONOLOGY OF THE HOLOCENE RHINE-MEUSE DELTA, THE NETHERLANDS by T. E. Törnqvist, *Nederlandse Geografische Studies* 166, Utrecht, 1993. No. of pages: 176. Price: DFI 32.00. ISBN 90-6809-179-4.

The view is often expressed that there are too many workers studying and restudying areas in northwest Europe in finer and finer detail, whilst larger areas of the world's surface remain relatively poorly known. The justification for investigations of well known areas may of course include ease of access, cost or, most importantly, the need to understand the evolution of a region for a specific human purpose. In the case of The Netherlands, and 'the rivers district' in particular, the very real need is obvious. Since God created the world, but the Dutch created The Netherlands, there is the fundamental need to understand the development of the sedimentary patterns and fluvial responses that have created the delta region if the Dutch are to keep their feet dry for the foreseeable future! This region has developed continuously throughout the late Cenozoic and into the

Holocene thanks to the constant flow of two of the largest rivers in Europe and the tectonic downwarping of the southern North Sea Basin. Moreover, because The Netherlands is a technologically advanced, small, densely populated country, the geological sequence is well known. Indeed, precious few places have such a dense network of excavations and boreholes as that available to those working in The Netherlands. The quality of detail assembled in this thesis represents the level of knowledge that can potentially be achieved in such situations.

This work is a thesis originally presented at the University of Utrecht in 1993. The investigations presented are a series of already published papers supported by a preface, conclusions, acknowledgements and summaries in both English and Dutch. The papers are all in English. The main aim of the investigations was to provide a comprehensive understanding of fluvial channel pattern changes in relation to sea-level rise during the Flandrian (Holocene). The area investigated is that often known as the 'river district', in this case extending southwards from Utrecht to Gorkum (and beyond) across the delta complex of the rivers Rhine and Meuse (Maas). According to the author, this area